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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,427	01/10/2002	Yi-Ping Hsin	STL10533/40176.72USU1	1328

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EXAMINER	
OLSON, JASON C	

ART UNIT	PAPER NUMBER
2651	

DATE MAILED: 05/28/2004 6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/043,427	Applicant(s) HSIN ET AL.	
	Examiner Jason C Olson	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-7 and 14-21* is/are allowed.

6)☒ Claim(s) *8,9 and 12* is/are rejected.

7)☒ Claim(s) *10,11 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 8-9 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ju et al. (6,614,615).

Regarding claim 8, Ju et al. teaches a controller for executing servo programs that include a table ROM (or memory) that contains a shaped position profile (or VCM response parameters) that moves the transducer along a modeled position profile (or ideal VCM plant); an adaptive control block (or measuring module) that determines the plant's actual frequency response (or actual VCM plant response); a notch filter (or equalization filter as described on page 6, lines 14-15 of the instantaneous specification) that dampens mechanical resonance of the plant's actual frequency response, where the adaptive control block fined the modeling error, or error between the modeled position profile and the actual response (see col. 5, ln. 19-61, col. 6, ln. 5-53, and col. 12, ln. 1-36).

Regarding claims 9 and 12, Ju et al. further teaches a state machine that determines the parameters of the notch filter (or transfer function) is a combination of the ideal and actual plant

response (see col. 12, ln. 20-65; It is known in the art that a notch filter is a discrete-time domain filter that is defined by state-space variables).

Allowable Subject Matter

Claims 10-11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-7, 14-21 allowed. The prior art does not teach or suggest the applicant's invention. Claims 1, 14, and 18 teach a method and means for controlling a transducer head. The distinguishing elements of the claims teach inputting actual voice coil motor plant response values representing a frequency response of an actual VCM plant to one or more sinusoidal signal(s), each at a predetermined frequency; inputting ideal VCM plant model values representing a frequency response of an ideal VCM plant to one or more sinusoidal signal(s), each at the predetermined frequency; determining relative differences between the ideal VCM plant model values and the actual VCM plant values at each of the predetermined frequencies; and realizing an equalization filter that when working in combination with the actual VCM plant, the combination yields a response that is substantially equal to the ideal VCM plant model response.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sidman et al. (U.S. 5,155,422) is cited for having self-tuning adaptive bandwidth

regulator. Ehrlich et al. (U.S. 5,325,247) is cited for digital multi-rate notch filter for sampled servo digital control system. Phan et al. (5,369,345) is cited for adaptive control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason C Olson whose telephone number is 703.305.8325. The examiner can normally be reached on Monday thru Thursday 7:30-5:30; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on (703)308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCO
May 19, 2004

DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600